

R E M A R K S

In the present Office Action, claims 39-65 were examined. Claims 40-46, 48-51, 57-60, 64 and 65 were withdrawn from consideration. Claims 39, 47, 52-56 and 61-63 were rejected. By this amendment, claim 62 has been canceled without prejudice or disclaimer. Claims 39, 47, 52-56, 61 and 63 have been amended in accordance with the Examiner's instructions. No new matter has been added. Claims 39, 47, 52-56, 61 and 63 are now believed to be in condition for allowance.

The Specification

The Examiner objected to the absence of title headings reading "BACKGROUND OF THE INVENTION" and "SUMMARY OF THE INVENTION". In addition, the Examiner objected at page 12, line 9 to "46_a" as well as line 28 "51". As amended herein, the requested titles have been added and the corrections required on page 12 have been included. As a result, Applicant respectfully traverses the Examiner's grounds for objection to the specification.

Claim Rejections under 35 U.S.C. 112

The Examiner rejected claims 39, 47, 52-56 and 61-63 under 35 U.S.C. 112 for being indefinite for failing to particularly point out and distinctly claim the subject matter of the present invention. Claim 62 has been cancelled herein without prejudice or disclaimer. The Examiner cites numerous instances involving

lack of antecedent basis and ranges cited within ranges which render the claims vague and indefinite. Specifically, the Examiner notes the presence of indefinite and improper language in claims 39, 47, 52, 53, 55, 61, 62 and 63. Applicant has made an attempt to correct each and every instance forming the basis of rejection under 35 U.S.C. 112 cited by the Examiner. As a result, Applicant respectfully traverses the rejections cited by the Examiner regarding claims 39, 47, 52, 53, 55, 61 and 63. Claim 62 has herein been cancelled.

Claim Rejections under 35 U.S.C. 103

The Examiner rejected claims 39 and 52-56 and 61-63 as being unpatentable over Raveleau and in instances in further view of JP 08294898.

Raveleau teaches an apparatus wherein a waster is treated horizontally. In contrast, the present invention illustrates an apparatus wherein the waster, drop or litter is turned and broken out. The fork of the present invention goes through a clip during a so-called return stroke, grabs the waster with its tooth and turns the waster during the following working stroke. This is in contrast to the manner in which the waster is taught in Raveleau. Specifically, Raveleau neither teaches nor suggests treating a waster in a non-horizontal manner. As a result, Applicant respectfully traverses the Examiner's grounds for rejection with regard to claim 39. As all of claims 52-56, 61 and 63 are dependent upon claim 39, claim 39 now believed to be

in condition for allowance, claims 52-56, 61 and 63 are likewise believed to be in condition for allowance.

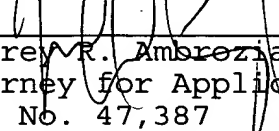
An earnest and thorough attempt has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

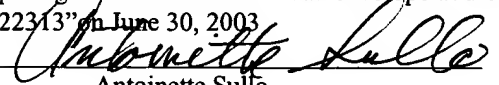
Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on June 30, 2003.


Antoinette Sullo

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Paragraph beginning at line 4 of page 1 has been amended as follows:

BACKGROUND OF THE INVENTION

The invention concerns an apparatus for removing broken-out pieces, in particular waste portions, from a sheet of material containing blanks or the like flat portions, as set forth in the classifying portion of the independent claim.

Paragraph beginning at line 14 of page 3 has been amended as follows:

SUMMARY OF THE INVENTION

In consideration of that state of the art relating to the breaking-out procedure, the inventor set himself the aim of substantially improving the removal of waste portions from sheets of material and simplifying the tools required for that purpose. In particular the invention seeks to provide that those tools can be use for the treatment of very small waste pieces.

Paragraph beginning at line 1 of page 8 has been amended as follows:

BRIEF DESCRIPTION OF THE DRAWINGS

Further advantages, features and details of the invention will be apparent from the description hereinafter of preferred embodiments and with reference to the drawings in which:

Paragraph beginning at line 5 of page 10 has been amended as follows:

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Cardboard sheets 10 which are used in the folding box industry have stamped blanks for folding boxes or the like, with waste portions 12 being produced in or on the blanks.

Downstream of a stamping station which is not shown in the drawing for reasons of enhanced clarity thereof, the stamped cardboard sheet 10 passes on to a breaking-out board or a female die 14 of a thickness b for example of 12 mm, on which the sheet 10 is freed of its waste portions 12; the waste portions 12 are disposed over openings 16 which are of a configuration designed in dependence on the contour of the waste portions 12 and at which, in the cross-sectional view in Figures 4 through 7, an upper frame portion 17 with a vertical wall is followed by a downwardly opening conical portion 18.

Paragraph beginning at line 4 of page 12 has been amended as follows:

In the support tool 20_a shown in Figures 11 and 12, the support surface 25 for the waste portion 12 is provided by a support plate 46 which hangs separately between side walls 23; the support plate 46 rests with lateral trunnions which are not visible - pivot axis A - in finite mounting grooves 48 in the side walls 23 and can be moved from the horizontal position into

the inclined position indicated at [46_a] 46_n. In that position the support plate 46 is disposed in approximately parallel relationship with the inclined front ribs 50 of the side walls 23, the front ribs 50 also forming catch fingers.

Paragraph beginning at line 27 of page 12 has been amended as follows:

Figures 16 and 17 show that the fork member 41 is firmly driven into a male die [51] 56 of plywood of a thickness b_1 of for example 12 mm, as far as abutments 54 which are formed from the fork member 41 and which are directed transversely with respect to the prong axis B. The firm fit is produced by means of abutment plates 59 (Figures 21 through 23) which are near the upper edge and which are parallel to the prong axis B, or by means of clamping noses 60 or gripping ridges which project at both sides from the surfaces 58 of the fork member 41.

IN THE CLAIMS:

Claims 39, 47, 52-56, 61 and 63 have been amended as follows:

39. (Amended) Apparatus for removing broken-out pieces, [in particular waste portions (12),] from a sheet of material [(10)] which contains blanks [or the like flat portions] and which rests on a female die [(14) or the like breaking-out surface] in such a way that [the] a broken-out portion extends over an opening [(16)] in [the] a breaking-out surface and is

urged away through the opening under the pressure of at least one breaking-out tool [(40, 41)], wherein associated with the breaking-out tool is a support means [(20, 20_a, 20_b, 20_n)] which is movable in [the] a direction of movement of the breaking-out tool and which is rigidly connected in positively locking relationship to the breaking-out surface or female die in [the] an edge region of the opening and which projects into the opening with a support [or contact] surface [(24, 25, 34)] which can be inclined with respect to [said] a connection pairing and which in [the] a rest position engages in substantially parallel relationship under the [waste portion or] broken-out piece disposed in the sheet of material and which is adapted to be variable in its position upon the movement of the [waste portion] broken-out piece by the breaking-out tool and in particular is adapted to be transferred into an angle of inclination relative to the sheet of material in the downward movement of the [waste portion] broken-out piece, wherein the connection pairing for the support means comprises at least one undercut receiving groove [(28, 31)] on the one hand and a portion [(27, 29)] which can be fitted therinto and which extends in the breaking-out direction (x) on the other hand, characterized in that [the] a plurality of cross-sections of the receiving groove [(28, 31)] and [the] a portion forming a first coupling rib or bar [(27, 29)] are of a dovetail-shaped configuration, wherein the support means [(20, 20_a, 20_b, 20_n) is] appears in longitudinal section as an angle portion with at least one coupling rib [(27)] which is formed out

of one of [its] a plurality of limbs [(22)] for a receiving groove [(28)] of the female die [(14)] or with a vertical groove [(31)] formed in a limb [(22)] for a second coupling rib [(29)] of the female die on the one hand and with [another] a flexible limb [(24, 34)] forming the support surface [(25)] on the other hand.

47. (Amended) Apparatus as set forth in claim 39, characterized in that the flexible limb [(24)] forming the support surface [(25)] has an edge opening [(32)] which is delimited on both sides by cantilever portions [(34)], and at least one inner opening [(30)] at a spacing in relation to the edge opening [(32)].

52. (Amended) Apparatus as set forth in claim 39, characterized in that [the] said at least one breaking-out tool [or tools (40; 41, 42)] extends [or extend] between a plurality of surfaces [(34, 34_a)] of the support means [(20, 20_a 20_b, 20_n)], said plurality of surfaces being movable in the breaking-out direction (x).

53. (Amended) Apparatus as set forth in claim 39, characterized in that the portion [(24; 46, 46_a; 64)] including the support surface [(25)] is provided at [its] a free edge [(35)] with at least one edge opening [(32)], wherein [possibly the] said at least one edge opening [or openings] is [or are]

disposed in opposite relationship to [the] a free end [or ends] of the breaking-out tool [(40, 41)].

54. (Amended) Apparatus as set forth in claim 39, characterized in that disposed opposite the support surface [(25)] as a breaking-out tool is a pressure pin [(40)] with a rounded free end which is in the form of a rough surface.

55. (Amended) Apparatus as set forth in claim 39, characterized in that associated with the support surface [(25)] as a breaking-out tool is a fork member [(41, 41_a, 41_b)] with one or more finger-like fork prongs [(42, 42_a, 42_b)] of preferably flat cross-section, wherein preferably [the] a free end of [the] a pressure pin [(40) or the fork prong (42, 42_a, 42_b)] is in the form of a rough surface.

56. (Amended) Apparatus as set forth in claim 55, characterized in that the free end of the fork prongs [(42, 42_a, 42_b)] is formed by a part-circular curve (43_a in Figures 18, 23) formed therein or a tip (Figures 30, 31) formed out thereon.

61. (Amended) Apparatus as set forth in claim 55, characterized in that [the] an axial height (h) of the rough surface [(44)] corresponds at most to [the] a diameter (d) of the pressure pin [(40)] or [the] a width of the fork prong [(42)].

63. (Amended) Apparatus as set forth in claim 55, characterized in that the fork member [(41)] projects from a plate-shaped male die [(56)], wherein [possibly] the portion of the fork member [(41)], which is connected to the male die [(56)], has clamping noses [(60) and/or abutments (54)].

Please cancel claim 62 without prejudice or disclaimer.